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MAY 17 2000

From: Commander, Naval Supply Systems Command

Subj: NAVSUP INFORMATION TECHNOLOGY STANDARDS AND GUIDELINES

Ref: (a) Information Technology Standards Guidance Version 99
            1 of 5 April 1999

Encl: (1) NAVSUP Information Technology Standards and
            Guidelines Matrix

1. Reference (a), hereafter referred to as the Information
Technology Standards Guide (ITSG), is a comprehensive reference
source of existing standards and provides overall guidance for
the application of information technology within the Navy and
Marine Corps. Since much of the ITSG is general in content, it
does not specifically address individual Claimant implementation
of these standards or identify Claimant standard and preferred
implementation products. The ITSG may be viewed on-line at
www.doncio.navy.mil/training/ools/itsg.

2. Enclosure (1) supplements reference (a) for NAVSUP
implementation, identifying "standard" and "preferred" hardware
and software products for use within NAVSUP. The matrix cross-
references ITSG technical areas by section to applicable NAVSUP
Guidelines. The areas specifically addressed include security,
office automation, the desktop environment, local and wide-area
telecommunications, and application development. Recipients are
expected to use products designated as "Standard" in support of
the identified related function. They are *strongly urged* to
consider the use of products identified as "Preferred" in
support of the related function when no specific NAVSUP guidance
or product is provided. Addressees should comply with the ITSG
in all other cases.

3. Every effort will be made to comply with these guidelines.
Waivers must be obtained for the use of any non "standard"
products. Where products are available through an existing
NAVSUP, DOD or Navy-wide contract, the contract number is
provided in the NAVSUP Guideline Remarks Section of the matrix
and the paragraph is highlighted. Users should use existing
corporate contracts whenever possible. In most cases, products
available on these contracts are centrally funded and provided
at no cost to the addressee's activity. NAVSUP has also funded
training in the use of products installed claimancy-wide. The
intent is to make the most efficient use of these resources and
obtain the best value.

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4. Questions, comments, suggestions and requests for waivers should be directed to Mr. Bob Harper, SUP 63F, who can be reached by email at robert_d_harper@navsup.navy.mil or by phone at 717-605-6277 or DSN 430-6277.

CAPT R.H. RHEA
By direction

Distribution:
FISC Jacksonville
FISC Norfolk
FISC Pearl Harbor
FISC Puget Sound
FISC San Diego
FISC Yokosuka
FMSO
FOSSAC
NALC
NAVICP
NAVPETOFF
NAVTRANS
NCTRF
NEXCOM
SUP 01
SUP 02
SUP 03
SUP 04
SUP 05

NAVSUP INFORMATION TECHNOLOGY
STANDARDS AND GUIDELINES

*S=*Standard* Product(s), P=*Preferred* Product(s), G=*Guidance* Info Only
If the NAVSUP Guideline does not address a specific technical area, the user
should defer to whatever guidance is provided in the ITSG. Shaded remarks
indicate availability of an enterprise contract.

Information Protection

ITS Guideline Chapter 3	NAVSUP Guideline		Remarks
	Policy or Product	S/P/G*	
Firewall (Section 3.4.1, Table3-1) Open System Standard: Application Layer Gateway Network Firewall	TIS Gauntlet	S	NAVSUP Firewall policy ltr dtd 7 Oct 99 Evaluating use of Sun Solaris, CISCO PIX combination in 2001
Virtual private Network (VPN) (Section 3.4.1, Table3-2) Open System Standard: IPSEC with FIPS 140-1	Timestep	P	Pilot with SPAWAR; Email agreement dtd 3 Sep 99
Antivirus for Email (Section 3.4.1.3, Table3-3) DoD site license virus detection tools	Mailsweeper package using DOD site license; DOD Site License of McAffee/Norton Products	S S	Mailsweeper Working Note dtd Sep 99; DOD License Antivirus Working Note of Sep 99
Routing Table Protection (Section 3.1.4.4, Table 3-4) BGP and OSPF with MD5 authentication	CISCO Routers; Nortell Routers	P	
Network Intrusion Detection (NID) (Section 3.4.2.1, Table 3-5) - Stateful filtering router - Active intrusion detection system	Axent Intruder Alert; ICSA's TRUSECURE; and SPAWAR's recommended ISS Real Secure and NetRanger	S	NAVSUP policy ltr Jan 98; NAVSUP contract for Axent products available through SUP63D. Researching NAVCIRT NID and other products – ISS and NetRanger.
Network Access Controller (Section 3.4.3.1,Table 3-6) Filtering IP Router	Radius pending BSDI Firewall Tac-ACS	P	Routers – implement "access list on the router"; Researching SPAWAR SECURE SHELL recommendation.
Operating System Security (Section 3.4.4.1, Table 3-7) - Windows NT 3.5/4.0 - NetWare 4.11 - UNIX	Windows NT 4.0 NetWare 4.11 UNIX	S S S	NT Working note dtd Apr 99; NetWare Policy Ltr dtd Sep 96; NAVSUP Microsoft Licensing under BPA N00039-98-A-3003; Netware License- BPA N00039-98-A-9002
Data at Rest Encryption (Section 3.4.4.2, Table 3-8) DES, 3DES, or Skipjack based product	Windows NT 4.0 NetWare 4.11 UNIX	S S S	NT Working note dtd Apr 99; NAVSUP Microsoft Licensing under BPA N00039-98-A-3003; NAVSUP NetWare License under BPA N00039-98-A-9002
E-mail Encryption (Section 3.4.4.3,Table 3-9) SMIME with DES or 3DES encryption	Lotus Notes	S	Meets SMIME, not FIPS140-1, V5.0.1a will accept X.509 V3 certs, NAVSUP Lotus Notes Licensing under F01620-95-D-0001

Applications:

ITS Guideline Chapter9	NAVSUP Guideline		Remarks
	Policy or Product	S/P/G*	
Office Automation -Commercial Product(s) (Section 9.2.1)	MS Office Suite MS Project 98 Netscape Navigator 4.7 VisioPro 5.0 Acrobat Reader 4.0 PKZip WinZip	S S S P S S S	NAVSUP Microsoft Licensing under BPA N00039-98-A-3003. Will migrate to MS Office 2000
Interpersonal Communications - Extended MAPI (section 9.2.2)	Lotus Notes 4.x Mail	S	NAVSUP Lotus Licensing under F01620-95-D-0001

Cooperative Work Applications
(Section 9.3)
  -Collaborative Processing
 	
  -Workflow
	
	Lotus Notes 4.x Groupware
	Lotus Sametime
	Lotus LearningSpace
	GroupSystems V2.1
	
	Documetrix/e.Power!
		
		S
		S
		S
		S
		
		S
			NAVSUP Sametime and LearningSpace Licensing under DoD Contract Fo1620-94-D-0002
			
			NAVSUP Group Systems Licensing under N00104-F-Q168
			
			NAVSUP Documetrix Licensing under N00104-00-F-Q094

Imaging Systems (Section 9.2.6.1, Table 9-2) - NITFS - MIL-STD-2500A - MIL-STD-188-196 - MIL-STD-188-199 - ANSI/ISO 8631 - ISO-IEC 10981-1	Follow ITS Guidance on imaging standards No NAVSUP recommended imaging product	 G	
Computer Graphics (Section 9.2.6, Table 9-3) OpenGL	Corel Draw 8.0 Adobe Illustrator 9.0	P P	
Web Development (Section 9.7.2, Table 9-7) Java 1.1/2	HTML Tools - Hot Dog - MS Front Page - Coffee Cup Programming Tools - JDeveloper 2.0 - Symantec Visual Café - IBM Visual Age - SQL Navigator	 P P P P P P P	Final recommendations for Web development tools are being developed and will be provided in subsequent revisions. Use of ActiveX is not authorized. Java code should conform to the Sun Java JDK 1.1.x with Swing Std. Future upgrade to 1.2.x is a target.

WWW Encryption (Section 3.4.4.4, Table 3-10) SSLv3 with DES or 3DES	Netscape Browser	S	NAVSUP policy ltr dtd Sep 98; MSIE may be used when ActiveX issue resolved. Can Use MSIE to use a digital cert (import) BUT NOT to apply for a digital cert.
Content Security Checking (Section 3.4.4.6, Table 3-11) DoD site license virus detection tools	Security/Virus Protection Tools - McAfee - Symantec Norton products - Mailsweeper Package	S	DOD Antivirus Working Note dtd Sep 99; Mailsweeper Working Note dtd Sep 99 DoD Site License available for McAfee, Symantic Norton, and Mailsweeper Software.
Public Key Infrastructure (Section 3.5, Table 3-12) - X.509v3 certs - RSA or DSS for CA signature - PKCS12 for key sharing -	DoD PKI	S	NAVSUP policy ltrs dtd Sep 98 and Aug 99 Use of NA PKI acceptable until implementation of DoD PKI
Symmetric Encryption Algorithm (Table 3-13) - DES - 3DES - Skipjack	Netscape Browser, Timestep, Fortezza (DMS- pending)	P P	NAVSUP policy ltr dtd Sep 98;
Public Key Cryptography (Section 3.6.2, Table 3-14) - RSA (1024 bit or longer) for key exchange and protection - DH	Netscape	S	NAVSUP policy ltrs dtd Sep 98 and Aug 99
Message Digest Algorithm (Section 3.6.4, Table 3-15) SHA-1	Lotus Notes	S	NAVSUP policy ltr dtd Aug 99; NAVSUP Lotus Notes Licensing under F01620-95-D-0001
Digital Signature (Section 3.6.5, Table 3-16) DSS	Pending	G	

Facility and Environment:

ITS Guideline Chapter 4	NAVSUP Guideline		Remarks
	Policy or product	S/P/G*	
Cable Media (Shore) (Section 4.3, Table 4-2) - Mix 62.5 um core/125 clad multi-mode with 8um core/125 um clad single-mode fiber - Air Blown Fiber (ABF) - Zip Cord for Drop Cables - UTP Cat-5 for Drop Cables after testing	Any product meeting the standards of the ITSG is acceptable. UTP Cat-5E	G P	
Patch Panels, Interconnection Boxes and Connectors (Shore) (Section 4.3.3, Table 4-4) - SC connector for multimode fiber - FOPC connector for single mode fiber - FJ-45 for UTP cable	Any product meeting the standards of the ITSG is acceptable.	G	
Topology, Security, Cable Integration (Section 4.3.5, Table 4-5) - Mesh Topology - ANSI/TIA/EIA 568A, 569 for shore	Any product meeting the standards of the ITSG is acceptable.	G	

Information Transfer:

ITS Guideline Chapter 5	NAVSUP Guidline		Remarks
	Policy or Product	S/P/G*	
Physical and Data Link for LANs (Section 5.2.1, Table 5-2) - Switched Ethernet - Switched Fast Ethernet - SONET - ATM - UNI 3.1 for ATM - UNI 4.0 for ATM - PNNI Phase 1 for ATM	Switched Ethernet To desktop Related to ATM Mixed environment	P P P P	With gigabit Ethernet backbone ATM is currently cost prohibitive in data only environment, additional training costs
Physical and Data Link for WANs (Section 5.2.2, Table 5-3) - DISN for IP Service - DISA ATM Service (DAS) or - - Commercial ATM Service - ISDN	Preferred #1 Preferred #3 Preferred #4 for IP service	P	SmartLink is currently in wide use within the Navy for WAN ATM services because it has been a more cost-effective choice. It is currently categorized as Preferred #2. It may be merged with DISA Services in the future. Widely used for VTC
Physical and Data Link for Radio Communications to Dispersed Forces (Section 5.2.3, Table 5-4) - UHF SATCOM - SHF SATCOM - EHF SATCOM - GBS - ATS - INMARSAT B,C - UHF LOS	Follow ITS Guidance	G	GSA contract wireless service contracts now available Use SALTS when normal channels are unavailable
Network and Transport Layer (Section 5.3, Table 5-5) - ATM - IPv4 - TCP - PPP	Follow ITS Guidance	G	NAVSUP will move to IPv6 and phase-out IPX For dial up circuits
Network Routing Protocol (Section 5.4.1, Table 5-6) - OSPF2 for IP IGP - BGP4 for IP EGP - PNNI for ATM - DHCP	Follow ITS Guidance	G	

Information Distribution:

ITS Guideline Chapter 6	NAVSUP Guidance		Remarks
	Policy or Product	S/P/G*	
Interim DMS Interoperability with the DON Information Infrastructure (Section 6.2.6, Table 6-1)	Lotus Notes with DMS embedded compliance	S	NAVSUP Lotus Notes Licensing with DMS compliance features under F01620-95-D-0001
Naming Services Standards (Section 6.3.1, Table 6-2) DNS	Follow ITS Guidance	G	
Directory Service (Section 6.3.2, Table 6-3) -X.500 -LDAP	NDS 5.X software X.500 Access Std. Notes/Netscape Software	S S	NAVSUP Novell NetWare License under BPA N00039-98-A-9002
X.400 Address Attributes (Section 6.3.2, Table 6-4)	Follow ITS Guidance	G	
E-mail with Attachments (Section 6.5, Table 6-5) - SMTP - X.400 (1992) - POP3 - IMAP 4 - MIME RFC 1521 - S/MIME RFC2312 - ZIP 2.04	LOTUS NOTES with out bound SMTP	S	NAVSUP Lotus Notes Licensing under F01620-95-D-0001
Standard User Directory Fill (Section 6.5.3, Table 6-6)	Follow ITS Guidance	G	
Network Time Service (Section 6.6.1, Table 6-7) - DCE DTS - NTP	Follow ITS Guidance	G	
System Monitoring and Control (Section 6.6.2, Table 6-8) - SNMPv1 - RMON 2 - XSM	System Monitoring and Control Software - HP Openview - DYS Analytic	S S	NAVSUP HP Openview licenses under N00104-00-A-Q184; DYS Analytic Software License under 263-97-D0322 ECS11
File Transfer Service (Section 6.6.4, Table 6-9) - HTTP - FTP - MIME RFC 1521 - S/MIME RFC2312	Follow ITS Guidance	G	
Web Service (Section 6.7.1, Table 6-10) - HTTPv1.1 - SSL	Web Server Software - Netscape Enterprise Server4.0 - Oracle Application Server - IBM WebSphere	P P P	

Data Quality and Data Interoperability (Section 8.5.3, Table 8-21) - DII/COE	Data Cleaning Tools - Vality Integrity 3.5 - Access	P P	Referenced tools have been effectively used by NAVSUP activities for the listed functions. They may not be the only tools that can be effectively used for these purposes.
Data Warehousing and Mining (Section 8.4.2.2.4)	Data Mapping Tools - Informatica Powermart 4.5 - ISP/DARS 4.37 OLAP Query/Reporting Tools - Cognos Impromptu 5.0 - Cognos Powerplay 6.0 - Cognos Query	P P P P P	Use of webFOCUS is acceptable for web enabling legacy FOCUS applications. This tool should not be used for new application development.
Information Engineering Tool Implementation (Section 8.6, Table 8-22) FIPS-184	Non-OO Business Modeling -BPWin Non-OO Data Modeling Tools - ERWin - ERWin Model Maro OO Data Modeling Tools - Designer 2000	P P P P	FMSO is currently evaluating the use of Rational Tools for OO data modeling

Application Development DII/COE COTS (Sections 9.6 and 9.7)	Programming Tools - PowerBuilder 4.x,5.x,6.x - Visual Basic 4.x,5.x,6.x - MS Visual C++ - ANSI C - Visual FoxPro 3.x - ROBOHelp 4.x - SQR 4.x - PICTORAL - Clipper - IBM COBOL for OS/390 &VM - IBM COBOL for MVS &VM	P P P P P P P P P S S	The listed tools have been used effectively by NAVSUP activities for the stated functions. They may not be the only tools which can be effectively used for these purposes. For UICP application development For UDAPS application development COBOL compilers must be ANSI 85 Std
	Report Writers - Crystal Reports - Powersoft InfoMaker	P P	
	Testing/QA - SQA Team Test - Animator - AppStudio - CodeView	P P P P	
	Configuration Management - Merant PVCS	P	
	Implementation /Recovery - BMC QUICKSTART for MVS	P	QUICKSTART is applicable for restart/recovery on mainframe applications. SOE compliant

Enterprise Management

ITS Guideline Chapter 10	NAVSUP Guideline		Remarks
	Policy or Product	S/P/G*	
Help Desk and Service Desk Customer Interface (Section 10.2.1.1.2.6) - No Industry Standard Exists at this time)	Help Desk Software - NAI Support Magic	S	Support Magic Enterprise Licensing NAVSUP Contract N00104-96-D-QB75

Web Client (Section 6.7.2.3, Table 6-11) - HTML - VRML	Follow ITS Guidance	G	XML is the proposed follow-on for HTML.
Network News Standard (Section 6.8, Table 6-12) NNTP	Follow ITS Guidance	G	

Computing Resources:

ITS Guideline Chapter 7	NAVSUP Guideline		Remarks
	Policy or Product	S/P/G*	
CPU (Section 7.2.1.1, Table 7-1) - Pentium II - Pentium Pro - AMD K6 - MIPS - Alpha - PA-RISC - Ultra SPARC - Power PC	In General, Current ITS Guideline Provides a Minimum Baseline. Avoid Apple Products. Procure Best Value Products	G	Activities should procure best value desktops IAW IT-21 Guidance or better. Desktop hardware must efficiently support the standard or preferred desktop software and network connection.
Bus Standards (Section 7.2.1.2, Table 7-2) - PCI - CardBus	Follow ITS Guidance	G	
Memory (RAM) Standards (Section 7.2.1.3, Table 7-3) - EDO - SDRAM - DRAM	Follow ITS Guidance	G	
I/O Interface Standards (Section 7.2.1.4, Table 7-4) - SCSI-2 - SCSI-3 - FC-PH - ESCON - IPI - PC Card - CardBus - Serial - Parellel	Follow ITS Guidance	G	
Storage Device Media (Section 7.2.1.5.1, Table 7-5) - 3.5" magnetic disk - 3.5" floppy disk - 5.25" WORM - 5.25" MO - ISO 13346 - CD-ROM - DVD - ½" helical tape - 4 mm DAT - DLT Tape - 3490E cartridge tape	Follow ITS Guidance.	G	
Disk RAID Levels (Section 7.2.1.5.2, Table 7-6) - RAID 1,3,4,5,6	Follow ITS Guidance	G	

Personal Workstation (portable) Hardware Configuration Guidance (Section 7.2.2.1, Table 7-7)	Minimum Pentium II 2 PCMCIA slots and/or Navy-approved smartcard/reader	P P	Procure best value
Personal Workstation (desktop) Hardware Configuration Guidance (Section 7.2.2.1 Table 7-8)	Pentium III or equivalent AMD Athlon	P	Intel and AMD CPUs functionally equivalent. Procure best Value
Server Hardware Configuration Guidance (Section 7.2.2.2, Table 7-9)	Multiple processors w/ Redundant Array of Independent Disks (RAID)	P	
Enterprise Computing Hardware Configuration Guidance (Section 7.2.2.3, Table 7-10)			Applicable to DISA managed systems
Personal Workstation Operating System (Section 7.3.1.1, Table 7-12) Windows NT Workstation	Windows NT4 Workstation.	S	NAVSUP Microsoft Licensing under BPA N00039-98-A-3003. Windows 2000 on contract when release 1 is available. Windows 98 acceptable until Windows 2000 can be installed
Server Operating Systems (Section 7.3.1.1.2, Table 7-13) - Windows NT Server - UNIX 95 (X/Open CAE) - POSIX - NetWare 4.1 or later	Windows NT Server UNIX 95 Netware 5.0 or later	S S S	NAVSUP Novell NetWare License under BPA N00039-98-A-9002
Enterprise Computer Operating Systems (Section 7.3.1.1.3, Table 7-14) - X/Open CAE - POSIX - OS/390 - VM - TPF			Applicable to DISA managed systems. A matrix of DISA SSO Managed OS/390 Software can be found at IP Address 163.249.248.3
Remote Procedure Call (Section 7.3.1.2.1, Table 7-15) - DCE RPC - TxRPC - ONC RPC - TransAccess RPC	Avoid use of Remote Procedure Calls (RPCs)	G	RPCs have been shown to cause serious security problems and should not be used in NAVSUP developed applications. Further use of Entera software for new development must be strictly avoided.
File Service (Section 7.3.1.2.6, Table 7-16) DCE DFS	Follow ITS Guidance	G	
Object Service (Section 7.3.1.2.7, Table 7-17) CORBA	CORBA Spec/Std	P	
Inter-Process Communication (Section 7.3.1.2.8) Use Standards Based Products	Communications Middleware - MQ Series Integration Brokers - MQSI	S S	FMSO is currently evaluating the use of additional tools in this area.

Information Management:

ITS Guideline Chapter 8	NAVSUP Guidance		Remarks
	Policy or Product	S/P/G*	
Data Administration Implementation (Section 8.1.3, Table 8-1)	Follow standards referenced in ITS Guidance	G	NAVSUP Corporate Data Architecture ltr of 9 Jun 99
Information Architecture Implementation (Section 8.2, Table 8-2) - DII/COE	Follow standards referenced in ITS Guidance	G	
Document Exchange Standards (Section 8.3.3, Table 8-3) - SGML - XML - CALS	Follow ITS Guidance	G	
File Formats (Section 8.3.3.2, Table 8-4)	Follow ITSG recommended file extensions	G	
DON Information Management (Section 8.4, Table 8-16)	Follow standards referenced in ITSG	G	
DON Data Base Documentation Guidance (Section 8.4.3, Table 8-17)	Follow standards referenced in ITSG	G	
Relational Database Management Systems (Section 8.4.4.1, Table 8-18) - ISO SQL - ISO RDA - TOG SQL - TOG RDA - TOG XA - TOG SQL CLI - ODBC 2.0	Oracle 8.x DB2 (OS390)	S P	Oracle Enterprise Licensing Contract F19630-93-D-0001. Oracle 8.x is the NAVSUP standard relational database management system and should be used for any new development requiring an RDBMS except for OS390 based applications where DB2 is preferred.
Object-oriented database management systems (Section 8.4.4.2, Table 8-19) ODMG 2.0	No preferred product. Follow ITS Guidance	G	The NAVSUP standard for non-relational DBMS is IDMS 12.0/14.0. It continues to be used in legacy U2 and UICP applications but should not be used for new development.
Database access (Section 8.4.4.3, Table 8-20) - ISO RDA - TOG RDA - TOG SQL - CU	Data Mediation Tools - Virtual DB Database Gateway Tools - CA Server - CA Enterprise Access - Sybase OmniConnect 10.5 - Oracle Direct Connect 11.0.1 - TransArc SQL	P P P P	Referenced tools have been effectively used by NAVSUP activities for disparate database access. They may not be the only tools which can be effectively used for these purposes.